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THE PULSE

FALL 2024

Data Assets: The Migration Journey to the Cloud

By Bala Rani and Phil Marsden



Financial institutions are strategically investing in modernizing their application and data management platforms, leveraging products and services from multiple providers for competitive advantage. In some cases, such investments are also mandated by regulators who are increasingly focused on banks' data reporting to ensure transparency, compliance, and stability in the financial system.

Bank boards, regulators, and other stakeholders have heightened their scrutiny of all aspects of data. Beyond key areas like business risk, data privacy compliance, and operational risk due to cyber threats and system failures, they are also focusing on data accuracy, completeness, timeliness, standardization, granularity, lineage, and aggregation. (See also "[Risk Data Aggregation and Risk Reporting: Where Did It All Go Wrong?](#)")

Cloud-based solutions play a big role in the digital transformations required to meet these demands. However, cloud migrations are complex endeavors, and most organizations struggle to achieve their desired outcomes. The many challenges they face include:

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- Users working with data from disparate systems
- Incomplete or missing inventory of current data sources
- Poor quality data, including lack of consistent data standards
- Conflicting business and regulatory priorities
- Cross-program dependencies
- Lack of subject matter expertise
- Loosely defined scope
- Data security and privacy vulnerabilities

This article suggests approaches that can help organizations successfully migrate their data assets to the cloud. It considers key challenges, as noted above, around scope definition, current and target state analysis, methodologies to accelerate time to market, and the management of internal and external dependencies.

Migration Scope

The scope for migration can be one of the most difficult project specifications to define precisely, depending on the scale of an organization and volume of legacy data.

Transformation leaders should consider a time-boxed pre-analysis phase to conduct a current state assessment of available data assets and prioritize them with the target state in mind. Results from this phase should help size/estimate the overall implementation effort, provide clear scope, and develop a roadmap for migration including resource needs, cost, and phases. Each product area should be analyzed based on identified sources and level of complexity involved. The idea is to bring value to the organization incrementally, while mitigating the risks of a big-bang implementation.

Methodology

To hedge against the high probability of scope creep, adopting an agile methodology can help to ensure progress is incrementally measured against stated goals, while adjusting (or scaling) to real-time business needs and accepting the need to “fail fast” in case of unexpected results.

Analysis

Conduct a thorough analysis of the underlying data sources and objects with a focus on business context and alignment to the target state data platform. This should include an assessment against standard data patterns and a gap analysis against strategic data models. Develop a framework for estimating a full implementation for the in-scope data, including data analysis, current vs. target state business use cases, development, and testing.

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Data Asset Considerations

Not all data assets are the same, and the unique characteristics of each will need to be considered as part of their migration to a cloud platform. Important areas for consideration will include business criticality, compliance, security, data asset dependencies, and return on investment.

Examples of potential considerations for migrating data assets include:

- **Compliance and security:** In the highly regulated financial services industry, adherence to data privacy, anti-money laundering, and region-specific rules such as GDPR, PCI DSS, and BCBS239 is critical. For instance, regulations often dictate where data can be stored, so that banks must ensure that their cloud provider can hold and process data within specific geographical regions. More generally, it's essential to establish robust data governance policies and collaboration between compliance and technology teams.
- **Data asset dependencies and aggregation:** For certain asset types such as bonds, pricing and valuation require external data including yield curves, interest rates, and credit ratings. Cloud platforms can host these complex datasets and integrate them with pricing models, offering more dynamic and scalable analytics. To enable successful migration, sequencing of system changes will need to be carefully managed to address such dependencies.

Understanding the lineage and provenance of data is paramount in identifying dependencies and business criticality.

- **Cost and efficiency:** Migrating asset classes can provide cost savings by reducing hardware expenses, but cloud usage fees need to be carefully managed, especially in environments with high compute and storage requirements. Understanding the individual requirements of each data asset is critical to building the business case and achieving the expected return on investment once migrated.

Stakeholder Buy-In

To get stakeholders onboard with the migration, use the current state implementation as a baseline reference to compare results from the target state platform. Then, clearly showcase improvements along with supporting documentation to internal

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and external consumers, regulators, auditors, and other stakeholders. Engaging these groups and actively communicating progress throughout the migration journey will be a key success factor.

Inventory, Data Model

These two artifacts are critical for understanding the current state, estimating projects, reducing duplication, and simplifying the data estate of all assets to allow for efficient migration to the cloud and consumption by the end user.

The inventory needs to hold information about all current sources of reference and source data utilized by the organization. At a minimum, it should also include information relating to ownership, details of the data held (business description), location, update frequency, access categorization, and time of the last update.

However, an inventory alone presents only part of the story. Understanding the lineage and provenance of data is paramount in identifying dependencies and business criticality, as part of building a comprehensive data model that accurately represents the organization's data assets. This exercise should not be a snapshot in time, but ideally needs to be built into the data ingestion and migration processes and then automated.

Data Security and Governance Architecture and Instrumentation

A robust data security and governance framework, equipped with appropriate instrumentation, can help overcome the challenges associated with managing data controls that focus on technical aspects, operational processes, and ensuring data protection, privacy, and security.

Working within that framework, the necessary instrumentation involves leveraging tools and techniques, either out-of-the-box from a vendor or customized in-house, to monitor, manage, and otherwise ensure the performance, security, and reliability of the strategic data platform. Below are some of the key types of tools that will alleviate challenges in complying with regulatory reporting requirements.

- **Data monitoring and observability:** To log and alert for ETL/ELT pipeline failures and/or delays in extracting, transforming, and loading data.
- **Data quality monitoring:** To verify data accuracy, completeness, consistency, and validity (e.g., checking for missing values, duplicates, or missing references).
- **Performance monitoring:** To track query performance, resource usage (CPU, memory), and response time for data access.
- **Data governance and compliance:** To manage access control and auditing capabilities, track data lineage, and manage metadata.

Be flexible in program execution since much of the data asset migration activity is likely to impact multiple functions across your organization.

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Without a clear cloud migration strategy in place, along with the fundamental building blocks, it can become increasingly difficult to achieve the technology's benefits.

- **Automation and orchestration:** Including job scheduling tools that manage the timing and dependencies for data loading, auto-scaling, and resource management, to help with dynamic scaling and load-balancing of compute nodes based on workload.
- **Alerting and reporting:** To provide real-time alerts by setting up triggers based on preferred thresholds that notify relevant teams, along with operational dashboards that provide a visual interface showing key metrics, trends, and KPIs for proactive monitoring, identification, and issue resolution.

Conclusion

To recap, here are a few closing tips for banks to gain confidence and achieve their cloud migration ambitions:

- Be flexible in program execution since much of the data asset migration activity is likely to impact multiple functions across your organization. Cater to the different delivery methodologies used by various teams.
- Align tactical outcomes to your strategic goals, to ensure efficient future delivery and leverage the strengths of different cloud providers.
- Conduct a complete and accurate data inventory when assessing the business and regulatory impact of any change and establish a strong data culture and governance framework to keep current.
- Use a strategic data model to align data sources with a common target state, both in allowing consumption by end users and in enabling data ingestion processes to more readily and easily migrate and onboard new data sources.
- Employ a data governance framework for day-to-day operations, coupled with strong instrumentation for business and technology controls around proactive monitoring, issue identification, and remediation.

Cloud environments offer many benefits. They can reduce capital expenditures and provide the ability to scale where needed. Migrating to the cloud can facilitate faster deployment of new services and innovative financial products by leveraging advanced technologies such as artificial intelligence and big data analytics. And cloud service providers invest heavily in security, often surpassing the capabilities of in-house systems, while offering tools for data encryption, threat detection, and access control.

But without a clear cloud migration strategy in place, along with the fundamental building blocks described above, it can become increasingly difficult to achieve the technology's benefits—making it slow and costly to realize your own organization's business and regulatory compliance goals.

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How Treliant Can Help

We assist financial institutions with migrating their data assets to the cloud:

- **Data solutions:** Bring deep financial industry knowledge and hands-on cloud experience to your migration process. Our data expertise helps you respond to ongoing business and regulatory changes. We also help you maximize the return on your data investments with effective data governance for enhanced reporting and analysis.
- **Digital transformation:** Offer technology enablement to ensure rapid and sustained improvement within your organization.
- **Regulatory guidance:** Provide guidance and support to banks on the interpretation and implementation of regulatory changes. This includes helping banks understand the requirements of the regulations, as well as providing practical advice on how to meet those requirements in a cost-effective and efficient manner.
- **Risk management:** Help identify and manage the risks associated with large-scale changes, including operational, reputational, and financial risks.
- **Migration strategy development:** Craft customized cloud migration roadmaps tailored to your institution's unique needs and the specific characteristics of your business.
- **Cost optimization and efficiency:** Guide institutions through a detailed cost-benefit analysis and design a cloud architecture that maximizes the ROI on your cloud investment.

Overall, Treliant can help banks effectively comply with ongoing regulatory and business change and manage the associated risks. By leveraging Treliant's expertise and resources, banks can better understand and meet their obligations, while also protecting their businesses and reputations.

Bala Rani

Bala Rani is a Senior Director in Treliant's Data Solutions practice. Bala is a senior technology program executive with over 20 years of advanced experience directing and driving transformational banking programs from concept through post-implementation. He has extensive expertise in developing, governing, and executing strategic roadmaps to deliver critical applications and data-centric programs to meet challenging organizational goals. bala.rani@treliant.com

Phil Marsden

Phil Marsden, Consulting Sales Lead, Capital Markets for Treliant, is an experienced sales and account management professional with more than 20 years' experience working in business, technology, and data consultancies across financial services and related sectors. phil.marsden@treliant.com

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- Optimizing Enterprise Risk Reporting: A Roadmap for Risk and Compliance Executives
- FDIC Proposes Tighter Recordkeeping in Bank-Fintech Partnerships, with Profound Business Implications

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